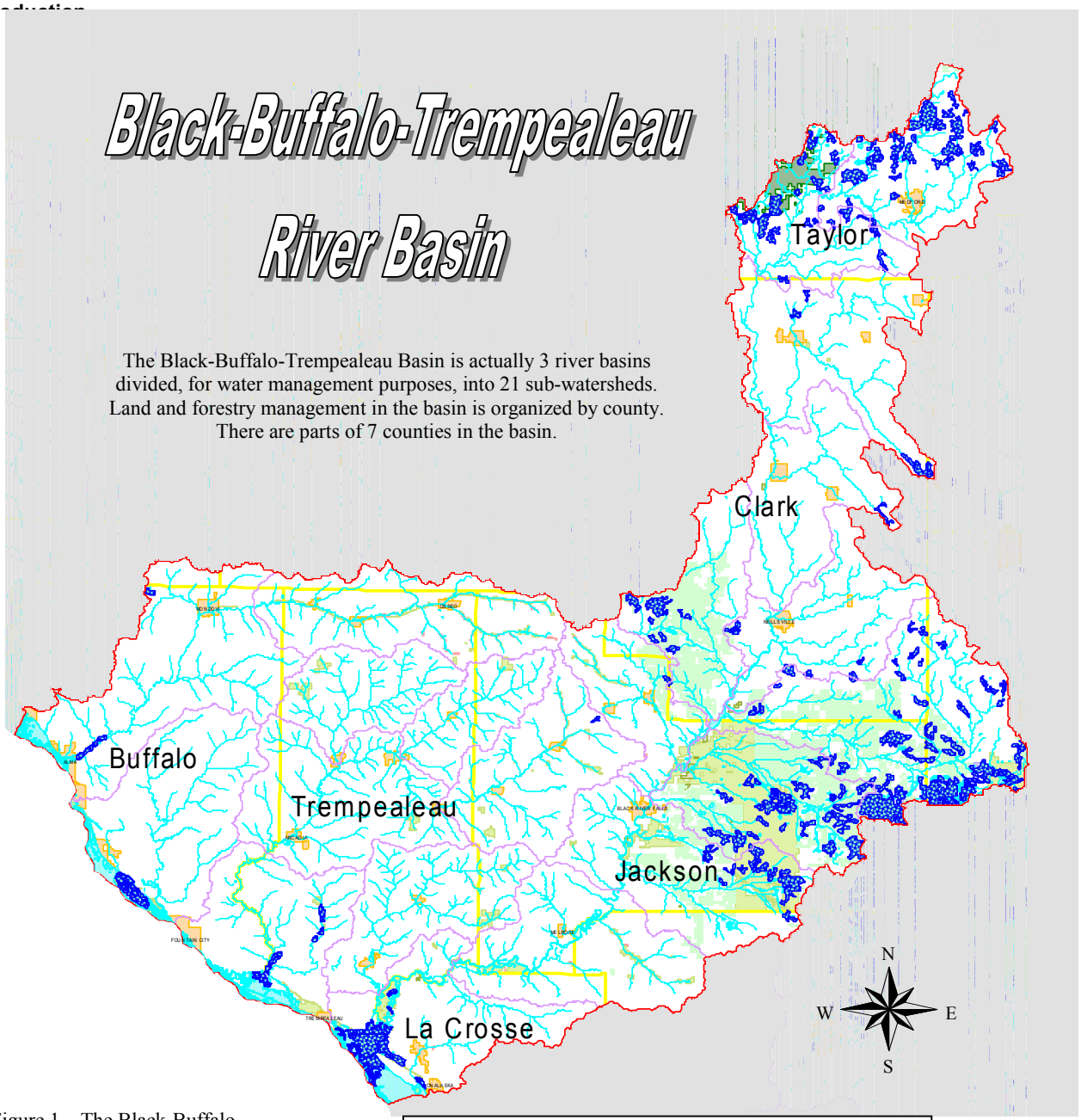

Figure 1 – The Black-Buffalo-Trempealeau River Basin

LEGEND

- Black-Buffalo-Trempealeau Basin
- Watershed Boundaries
- USGS Marsh

USGS Rivers and Streams

- Perennial
- USGS Open Water
- County Boundaries
- National Forests
- County Forests
- Federal Lands
- American Indian Lands
- Municipalities

DNR Managed Lands

- Ownership
- Easement
- Lease

Basin Chronology

1 Million-8000 BCE
Ice Age – glaciers cover the northern half of the BBT.

1659
The French begin exploring the Black River.

1819
First saw mill is built on the Black River at Black River Falls.

1837
Ho-Chunk people are forced to cede their land between the Black and Wisconsin Rivers.

1839
Farming begins in Jackson County.

1848
Wisconsin becomes a state.

1853
Jackson County is formed from part of Crawford County.

1855
Early settlement begins in Buffalo (Beef) River Valley.

1868
Western Wisconsin Railroad arrives in Black River Falls, accepting wheat and timber for transport.
First grain mill is built on the Trempealeau River.

1878
Indian Mission is established near Black River Falls by Evangelical Reform Church.

1880s
Dairying takes over as the dominant form of agriculture in the basin.

1895
Commission of Fisheries is formed.

About 1900
Elk are extirpated in Wisconsin.

1903
Forestry Commission is formed.

1908
Hatfield Dam is dedicated.
Henry Ford introduces first mass produced automobile.

1911
Major flood event occurs in Black River Falls on October 6.

1918
Perrot State Park is established.

1924
Upper Mississippi River National Wildlife and Fish Refuge is established to protect floodplain habitats from Wisconsin into Illinois.

1925
Chequamegon National Forest is designated in Wisconsin.

1927
Wisconsin legislature passes first forest tax incentive program.

When the first Europeans arrived in what is now Wisconsin, 86% of the state was covered in timber.

– Minnie Jones

At one time, there were 40 sawmills in Jackson County alone.

– Jackson County Historical Society

Farming grew quickly in the area. In Taylor County, for example, there were:
266 farms in 1880
1168 farms in 1900
2464 farms in 1930

– Taylor County

Courtesy of the Jackson County Historical Society

1905 – the last high water on the Black River before the devastating 1911 flood.

Courtesy of the Jackson County Historical Society

The Civilian Conservation Corps camp at Hatfield in 1935.

1930
Wisconsin Supreme Court rules that recreational activities, like sailing, canoeing, and skating are public rights.

1932
Merrick State Park is established.

1933
Civilian Conservation Corps (CCC) is formed by President Franklin Delano Roosevelt.
Lock and Dam construction creates navigation pools, flooding riverine habitats along the Mississippi River.

1936
Trempealeau National Wildlife Refuge established, protecting over 6000 acres of bottomland and savanna habitats adjoining Perrot State Park.

1951
Wisconsin passes first state law to acquire and manage natural areas to preserve rare plant habitat.

1957
Black River State Forest is established.

1964
U.S. Congress passes Wilderness Act.

1965
Wisconsin becomes first state to pass a Wild Rivers Act.

1967
Kellett Commission combines natural resources and environmental protection agencies to create the Department of Natural Resources.

1970
U.S. Environmental Protection Agency is created.
Congress passes Clean Air Act.

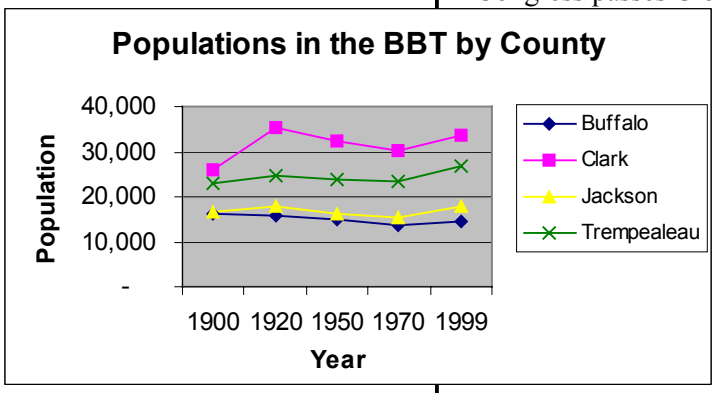

Figure 2 – Populations in the BBT by County (since 1900); Taken from the Bureau of Economic Analysis (2001) and the U.S. Census Bureau (2000).

1972
Clean Water Act passes regulating the discharge of pollutants into lakes and streams.

1974
Federal Safe Drinking Water Act is enacted.

1976
Buffalo River State Trail is established.

1986
Ice Age National Scenic Trail is established.

1993
Major flood event occurs on the Black River.

1994
Winnebago Indians revert to proper name, the Ho-Chunk Sovereign Nation – "People of the Sacred Language."

1996
WDNR reorganization takes place.

1999
Karner Blue butterfly conservation plan is signed.

Basin Overview

The combined basins of the Black, Buffalo, and Trempealeau Rivers (BBT) cover approximately 3852 square miles (almost 2.5 million acres) of land in West Central Wisconsin. The river basins form a network of rivers and creeks all draining the land south and southwest into the Mississippi River. Over 3500 recorded miles of waterways in this network provide homes and a fresh water supply to thousands of aquatic organisms, fish, and wildlife species, including many that are rare.

The basin is part of four geographical provinces present in the state – the Coulee Section, the Glacial Lake Wisconsin Sand Plain, the Central Wisconsin Undulating Till Plain, and a small portion of the Perkinstown End Moraines. Pre-Cambrian granite underlies most of the basin with younger rock formations overlying it.

The area from eastern Jackson County to the northern tip of the basin in Taylor County was covered as late as 10,000 years ago with Ice Age glaciers. Home to the headwaters of the Black River, several lakes in Taylor County are kettle holes that were created by glaciers and have since filled with groundwater. These glaciers scraped the granite underlayers and deposited silty soils. Today, the rich, poorly drained soils are used mainly for agriculture, though they are perhaps better suited to forestry, and also make up most of the wetlands in the basin.

Early vegetation in this northern section of the BBT was made up predominantly of Northern Mesic Forest, or maple, hemlock, and yellow birch, except in the area of the Sand Plain. The sandy alluvial plains created by glacial Lake Wisconsin provided the ideal setting for Pine Barrens and Pine Forests.

The Coulee Section includes most of Buffalo, Trempealeau, and La Crosse Counties as well as western Jackson County. Better known as the Driftless Area, this plateau has been dissected by a maze of high, narrow ridges and steep, broad coulees worn down by streams. A layer of wind-spread silt covers most of the Coulee Section, while sand and gravel carried from the uplands covers the valleys.

The Coulee Section is also part of a region of the country known as the Prairie-Forest Border, forming the transition zone between the plains to the south and west and the forests to the north and east (Conservancy, 2001). Before European settlement and the resulting fire suppression, the vegetation in this region consisted mostly of oak savanna and southern oak forest.

The steep hills and valleys of the Coulee Section support many cold water streams influenced by groundwater levels and good drainage of the sandy soils. Conversely, the poor drainage of soils in the northern BBT results in a great deal of rain and snowmelt runoff, which in turn feeds many miles of warm water streams. As land use intensifies, runoff is further accelerated, causing floods that cumulatively increase damage to infrastructure and habitats downstream.

The Winnebago Indians, as they were named early on by the French (They have since reclaimed their ancestral name of the Ho-Chunk Sovereign Nation, or "People of the Sacred Language."), lived in what is

Introduction

Watershed or Basin – the land area that drains into an individual lake or river.

Sub-watershed – a sub-section of a watershed or basin that drains into a tributary of the basin's main river.

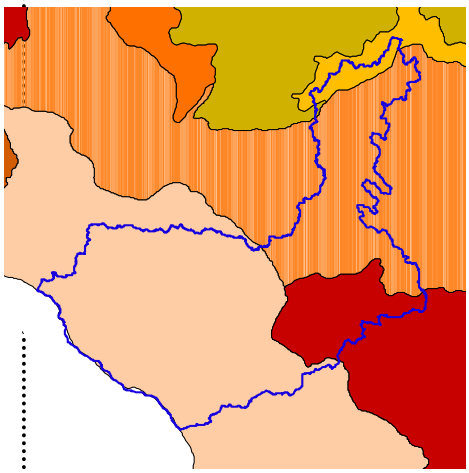

Figure 3 – Wisconsin's Geographical Provinces

Only 5% (68 miles) of the 1363 stream miles in the northern portion of the BBT are cold water streams.

Of the 2101 stream miles in the Coulee Section, about 25% (537 miles) are cold water fisheries.

now Wisconsin for thousands of years before European settlers arrived in the 17th century. The Ho-Chunk people have historically used the land for both religious and practical purposes. Sacred ceremonial sites can be found across the region. They hunted, fished, gathered wild plants, and farmed the land.

The Ho-Chunk are known to have a great respect for the land. The land not only provided them with needed material to make their homes, but also provided nourishment and sustenance. They practiced conservation of the land. The Ho-Chunk are noted for traditional methods of farming. Their raised garden beds were naturally watered and produced vegetables for the entire population. They were very conscious not to over-tax the land and rotated harvesting and gathering of berries, natural plants for food and medicine, and hunting areas (LaMere, 2001).

The Ho-Chunk, through treaties with and trickery by white government (Ho-Chunk, 2000), ceded their nomadic lands in Wisconsin, Illinois, Minnesota, and Iowa and moved west as far as Nebraska and South Dakota. In 1837, they were forced to give up the land that is now part of the BBT. It has been a directive from their elders to protect the sacred/burial land sites and to regain title of these lands either by purchasing it or having the land given back to them (LaMere, 2001).

LEGEND

Just as the people of the Ho-Chunk Nation have known the sustaining power of the land for thousands of years, though, European settlers saw great opportunity in the pineries, rivers, and fertile lands of West Central Wisconsin. Europeans, however, took a much less conservationist approach to land use.

Lumber, and lots of it, drew Europeans to the area that is now the Black-Buffalo-Trempealeau River Basin. Early settlers clustered around major transportation corridors, like rivers and later railroads, and hubs of business, like mills. The first saw mill was built at the falls on the Black River in 1819 but was destroyed shortly after by Native Americans. The Europeans would not be kept out though, and the mill was rebuilt about twenty years later. The close proximity of the river made movement of supplies up to the mill and transportation of logs south to La Crosse and Prairie du Chien possible. During high water, men drove keelboats down the river to pick up supplies, and in winter, the Black River was a frozen "sleigh express" for supplies.

"None of the logging went farther back than a mile from the bank of the stream, that distance being all that the traffic would bear, back in the days before the railroad."

– by Horace S. Merrill

For many years, lumbering was limited to the areas nearest to deep, fast-moving rivers. However, when the railroad came to Black River Falls, lumbering in the area spread dramatically. In 1865, before the railroad, only 46 million feet of logs were floated down the river to the Mississippi. In 1869, the railroad made transport much simpler, and 160 million feet of logs rolled down the tracks to markets in the south and east (Merrill, 1933).

Farmers, too, experienced great difficulty transporting products before the railroad came to the area. Around the 1850s, especially in Buffalo and Trempealeau Counties, where prairies were more easily converted to agricultural land, wheat farming became an important industry. Early on, farmers in the Trempealeau Valley hauled wheat in wagons to Trempealeau to be transported on the river, a long and difficult trip through the coulees. When the railroad came to Sparta, they were forced to take their products there, but the most convenient trip of all was taking the load to the Black River Falls railroad station, though this was still a three-day trip for some.

Traveling was not the only trouble for some of the early farmers though. Agriculture experienced a boom in Clark and Jackson Counties in the 1920s. Much of the land there needed to be drained before agriculture was even possible and even then farmers in wetland areas with clay soils found little success. The federal government bought back much of this land and later deeded it to the state and the counties respectively, creating Clark and Jackson County Forests and the Black River State Forest.

Courtesy of the Jackson County Historical Society

Courtesy of the Jackson County Historical Society

Log jam on the Black River. Note the man sitting on a log in the middle of the picture (top). Jackson County farmer with oxen (bottom).

After years of use and misuse, the face of natural resources in the Black-Buffalo-Trempealeau River Basin has changed. Where is the basin today?

Approximately 80,000 people live in the BBT today. Most communities in the region have very small populations, but that does not necessarily lessen the impact on our natural resources. For example, over 400 industries manufacture goods in the region (Census, 1997). Nearly 6000 farms use over 1.5 million acres of land – out of a 2.5 million total acres in the BBT – with an average farm size of 257 acres (USDA, 1997). Currently, 57 municipal and industrial wastewater dischargers operate in the basin. In addition, mining, timber, and other resource-related industries operate in the basin.

CURRENT LAND USE[a]	%	ORIGINAL VEGETATION[b]	%
Urban	0.845		
Cropland/Pasture	47.5		
Forest	46.5	Forest	78.5
Lakes/Reservoirs	1.13		
Wetland	3.8	Wetland	8.5
Prairie	0[c]	Prairie/Bush	12.2
Barren	0.15	Unknown	1.13

[a] – Current Land Use source photos range from 1971 to 1982.
[b] – Data originates from a 1976 map created from land survey notes written in the mid 1800s.
[c] – Current land use data does not distinguish prairie from some cultivated lands, such as hay fields.

Table 1 – Current Land Use vs. Original Vegetation

Not all the impacts can be measured. However, we know erosion, contaminated runoff, streambank and shoreland development, and over-harvesting of timber has degraded many formerly high-quality streams. Degradation and unnecessary damming of streams impact survival potential of all aquatic life in them. In addition,

concerns exist about the water supply, because so many possibilities – most of which can be avoided – for contamination exist.

Natural communities that support rare species of plants and animals are disappearing at alarming rates due to problems like real-estate development, fragmentation of the land, and fire suppression. For the same reasons, natural communities that are surviving have frequently diminished in size to the point where certain rare species lack the necessary space to exist. Some species adapt; others cannot.

However, improvements are being made due to the work of conservation groups, agencies, and legislation and individuals. The alarming rate of decrease in wetland acreage has slowed greatly due to regulation and increased awareness of wetlands' values. Many river corridors and natural areas are being protected and managed for wildlife survival.

The land may never return to what it was before European habitation, but every single citizen can take steps now to protect what we still have and help restore some of what has been lost. Any movement toward the ecological integrity of Wisconsin's ecosystems can only be movement toward the preservation of resources, protection of public safety, and promotion of recreation on public land.

Courtesy of Jackson County Historical Society

View overlooking the Black River with Bell Mound in the distance.

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